

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/050505

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E21B23/10 E21B33/16 F16L55/38 B08B9/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E21B F16L B08B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 1 683 429 A (EDWARD WALKER) 4 September 1928 (1928-09-04) page 2, column 1, lines 7-24 figures 4,6	1,2,5
X	US 5 966 768 A (HAHN ROBERT B) 19 October 1999 (1999-10-19) abstract figure 9	1,2,5
A	US 2001/047811 A1 (SIVACOE ORLANDE) 6 December 2001 (2001-12-06) figure 5C	1
A	NL 8 402 419 A (JOCHIM VAN BEUGEN) 3 March 1986 (1986-03-03) figures 1-6	1
-/--		

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

Z document member of the same patent family

Date of the actual completion of the international search

22 July 2004

Date of mailing of the international search report

29/07/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Schouten, A

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/050505

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 3 605 159 A (GIRARD HARRY J) 20 September 1971 (1971-09-20) the whole document</p> <p>-----</p>	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/050505

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 1683429	A	04-09-1928	NONE	
US 5966768	A	19-10-1999	CA 2325464 A1 EP 1105224 A1 WO 9948625 A1	30-09-1999 13-06-2001 30-09-1999
US 2001047811	A1	06-12-2001	AU 750425 B2 AU 9731998 A CA 2252243 A1 WO 9923438 A1 EP 1027572 A1 US 2002185261 A1 US 2001003307 A1	18-07-2002 24-05-1999 29-03-1999 14-05-1999 16-08-2000 12-12-2002 14-06-2001
NL 8402419	A	03-03-1986	NONE	
US 3605159	A	20-09-1971	BE 775801 A1 FR 2186857 A5 GB 1367667 A NL 7110427 A ,B	16-03-1972 11-01-1974 18-09-1974 30-01-1973